(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 21 October 2004 (21.10.2004)

PCT

(10) International Publication Number WO 2004/090025 A1

(51) International Patent Classification⁷: C09K 19/38, G02B 5/30, G02F 1/1335

C08J 5/18,

(21) International Application Number:

PCT/EP2004/003547

(22) International Filing Date:

2 April 2004 (02.04.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 03 007 917.2

8 April 2003 (08.04.2003) EP

- (71) Applicant (for all designated States except US): MERCK PATENT GmbH [DE/DE]; Frankfurter Strasse 250, 64293 Darmstadt (DE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): HARDING, Richard [GB/GB]; 4 Elland Close, Fair Oak, Eastleigh, Hants SO50 7JY (GB). MARDEN, Shirley, Ann [GB/GB]; 244 Ringwood Road, Parkstone, Poole Dorset BH14 0RS (GB). HASSALL, Ian, Victor, Edward [GB/GB]; 22 Burnham Road, Christchurch, Dorset BH23 7ND (GB). McCREARY, Janice [GB/GB]; Flat 2, 29 Bellevue Road, Southampton SO15 2AX (GB). SKJONNEMAND, Karl [GB/GB]; 26 Ingrebourne Way, Didcot, Oxfordshire OX11 7UP (GB).

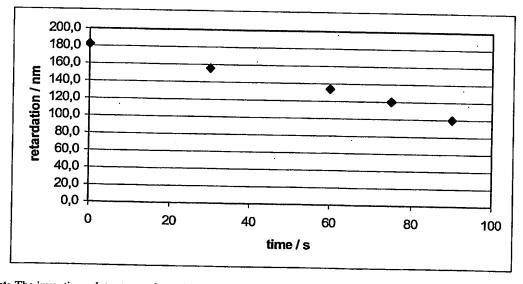
- (74) Common Representative: MERCK PATENT GmbH; Frankfurter Strasse 250, 64293 Darmstadt (DE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: POLYMERISED LIQUID CRYSTAL FILM WITH RETARDATION OR ORIENTATION PATTERN



(57) Abstract: The invention relates to a polymerised liquid crystal (LC) film comprising at least one photoisomerisable compound and having a pattern of regions with different retardation and/or different orientation of the LC material, to methods of preparing such a film, and to its use as alignment layer, optical retardation film or optical waveguide in liquid crystal displays or other optical or electrooptical components or devices, or for decorative or security applications.

WO 2004/090025 A1

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.